FlyBy Math™ Alignment
Indiana's Academic Standards - Mathematics

Standard 3. Algebra and Functions

Students use variables in simple expressions, compute the value of an expression for specific values of the variable, and plot and interpret the results. They use two-dimensional coordinate grids to represent points and graph lines.

Indicator	***FlyBy Math™* Activities**
5.3.4 Identify and graph ordered pairs of positive numbers.	--Plot points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system to describe the motion of two airplanes.
5.3.5 Find ordered pairs (positive numbers only) that fit a linear equation, graph the ordered pairs, and draw the line they determine.	--Represent distance, speed, and time relationship for constant speed cases using linear equations and a Cartesian coordinate system.
5.3.7 Use information taken from a graph or equation to answer questions about a problem	--Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.

Standard 6. Data Analysis and Probability

Students collect, display, analyze, compare, and interpret data sets. They use the results of probability experiments to predict future events.

Indicator	***FlyBy Math™* Activities**
5.6.1 Explain which types of displays are appropriate for various sets of data.	--Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.

Standard 7. Problem Solving

Students make decisions about how to approach problems and communicate their ideas.

Indicator	***FlyBy Math™* Activities**
5.7.1 Analyze problems by identifying relationships, telling relevant from irrelevant information, sequencing and prioritizing information, and observing patterns.	--Apply mathematics to predict and analyze aircraft conflicts and validate through experimentation.

Students use strategies, skills, and concepts in finding and communicating solutions to problems.

Indicator	***FlyBy Math™* Activities**
5.7.3 Apply strategies and results from simpler problems to solve more complex problems.	--Compare airspace scenarios for both the same and different starting conditions and the same and different rates.

5.7.4 Express solutions clearly and logically by using the appropriate mathematical terms and notation. Support solutions with evidence in both verbal and symbolic work.	--Explain and justify solutions regarding the motion of two airplanes using the results of plotting points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system. --Predict outcomes and explain results of mathematical models and experiments.
5.7.7 Make precise calculations and check the validity of the results in the context of the problem.	--Calculate and measure the position and time of simulated aircraft. Represent that motion using tables, graphs, equations, and experimentation. --Apply mathematics to predict and analyze aircraft conflicts and validate through experimentation.
Students determine when a solution is complete and reasonable and move beyond a particular problem by generalizing to other situations.	
Indicator 5.7.8 Decide whether a solution is reasonable in the context of the original situation.	***FlyBy Math™*** **Activities** --Predict outcomes and explain results of mathematical models and experiments.
5.7.9 Note the method of finding the solution and show a conceptual understanding of the method by solving similar problems.	--Explain and justify solutions regarding the motion of two airplanes using the results of plotting points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system.